Feb. 28, 1939. A. F. REILLY 2,149,183

POWDER SIFTER

Filed May 26, 1938

Fig. 1.

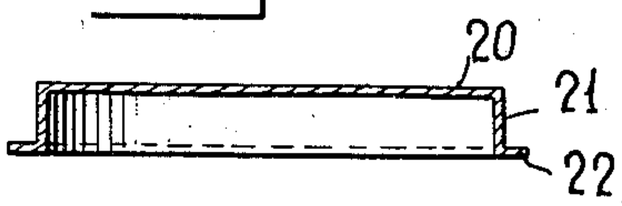


Fig. 2.

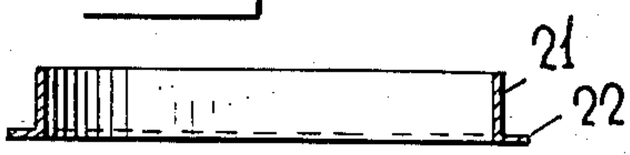


Fig. 3.

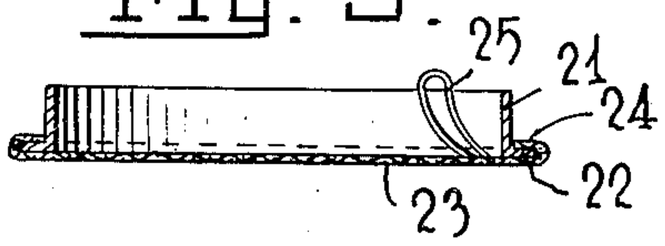


Fig. 4.

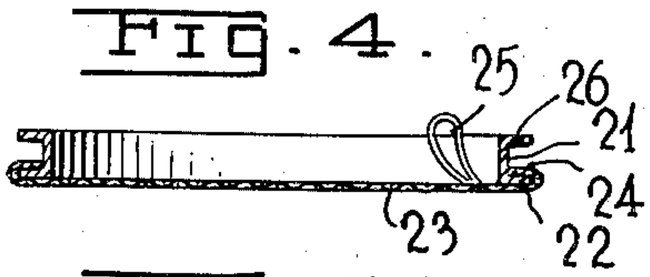


Fig. 5.

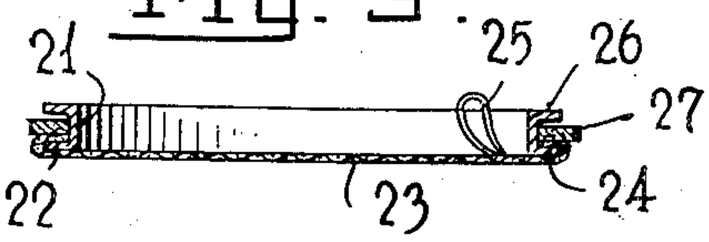


Fig. 6.

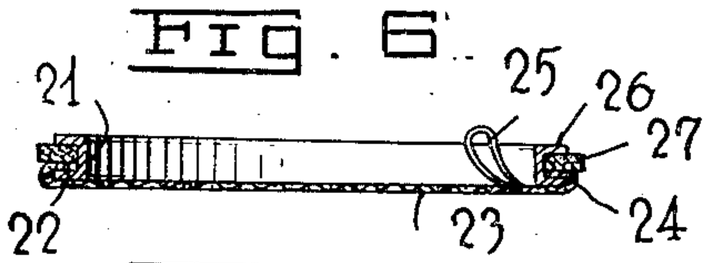


Fig. 7.

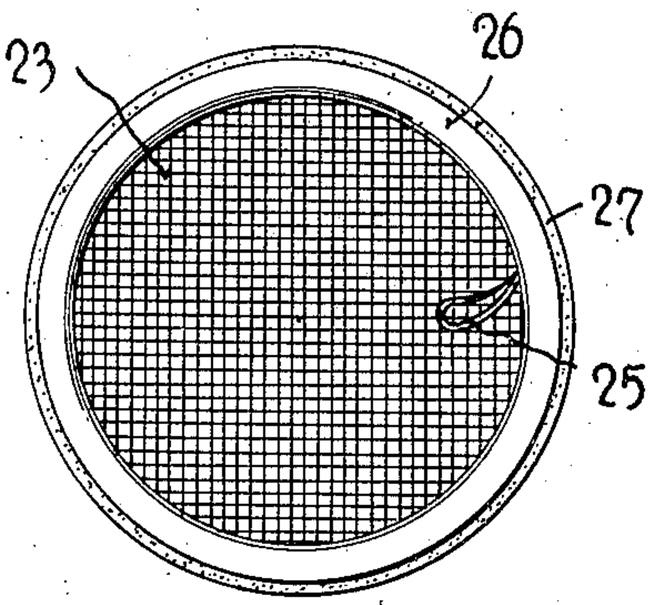


Fig. 8.

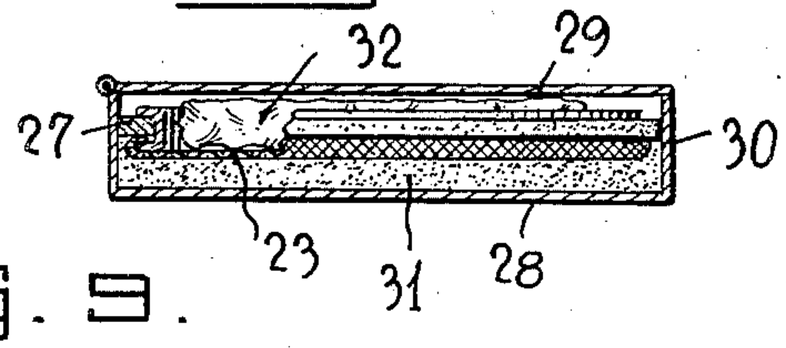
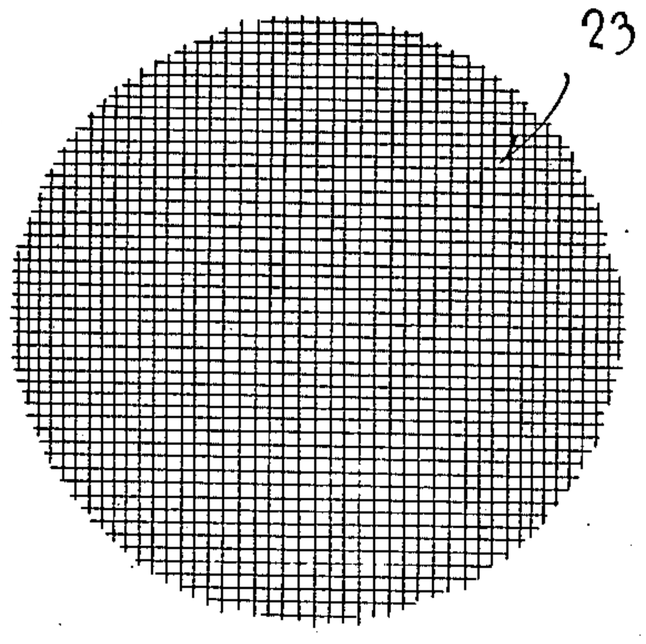


Fig. 9.

Fig. 10.



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UNITED STATES PATENT OFFICE

2,149,183

POWDER SIFTER

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Application May 26, 1938, Serial No. 210,208

12 Claims. (Cl. 132—82)

In compacts and the like which employ loose powder there is usually provided a powder sifter which overlies the loose powder and keeps it from dispersing or spilling but at the same time allows powder to pass through it for use. It is desirable that the powder sifter be readily removable for renewing the powder supply. It is desirable also that the powder sifter be so constructed and associated with the powder receptacle that substantially no powder may leak about the edges.

The present invention relates to a powder sifter which comprises a foraminous material carried by a frame. The sifter and frame may be of any suitable shape but preferably they will be substantially the shape of the compact or powder receptacle whether round, square, or other shape. At the outside edge of the frame carrying the foraminous member is a packing which may closely engage the inner walls of the powder receptacle to prevent the passage of powder past the edges of the powder sifter.

The present invention has to do particularly with such a device, which may be a ring of any suitable shape provided with a foraminous member stretched across the center of the ring. The ring in cross section may be the shape of a U lying on its side and extending outward from the ring may be a packing member adapted to engage the walls of a powder receptacle.

In the accompanying drawing Figure 1 is a transverse vertical section of a blank from which the powder sifter may be made. Figs. 2, 3, 4, 5, and 6 are similar transverse vertical sections showing the blank and associated material in the forms they take in successive steps of manufacture. Fig. 7 is a top plan view of one form of finished sifter. Fig. 8 is a transverse vertical section of a sifter in place in a compact or powder box. Fig. 9 is a perspective view of a form of packing member and Fig. 10 is a plan view of a blank foraminous member which may be employed in the manufacture of the sifter.

In Fig. 1 is shown a blank member which is more or less the shape of a pan having a base **20**, a vertical side wall **21** and a projecting marginal member **22**. This blank may be formed in any suitable way as by stamping or pressing and from any suitable material.

The bottom **20** may be cut from the blank shown in Fig. 1 leaving a ring L shaped in cross section as shown in Fig. 2. The foraminous member **23** may be applied across the opening in the ring and the edges **24** of the foraminous member **23** may be turned upward and over the face **22** of the L shaped ring. The formation is here referred to as upward and is so illustrated in the drawing. It will be understood, however, that the direction is immaterial. The entire structure may be turned upside down and the turning be made down and inward.

A loop **25** for lifting the sifter may be provided in any suitable manner such as by inserting its ends between the foraminous member **23** and the upwardly projecting arm **22** of the ring. The outer end of the member **21** of the ring may then be turned outwardly as illustrated at **26** in Fig. 4. This will produce a ring U shaped in cross section with the arms of the U extending outwardly. Between the arms **22** and **26** and resting upon the edge **24** of the foraminous member **23** may be placed a packing member **27**. The packing member **27** may be of any suitable material or any suitable form. As illustrated in Fig. 9 the packing member **27** may consist of a single strip of felt or the like. This being flexible may be bent to the shape of the ring and so as to fit into the space between the arms **22** and **26**. The width of the member **27** will preferably be slightly greater than the length of the arms **22** and **26** so that it will extend somewhat beyond the edge of the ring. The arms **22** and **26** are here illustrated as of equal length but this is not essential. It will be sufficient if the arms **22** and **26** are of sufficient length to grasp and hold the materials together. When the parts have been assembled as illustrated in Fig. 5 the ring may be submitted to pressure and the arms **22** and **26** pressed closely together so as to clasp the edge **24** of the foraminous member **23** and the packing **27** and hold the various parts permanently assembled as illustrated in Figs. 6, 7 and 8.

The structure is shown in Fig. 7 as circular. The term ring, however, as here employed is not limited to a circular structure but is intended to refer to a structure of any suitable or desired form. The powder sifter will be preferably shaped to correspond with the shape of the compact or powder receptacle it being desired that the packing member **27** shall engage the inner walls of the compact or powder receptacle at all points. In Fig. 8 the powder sifter is illustrated diagrammatically in position in a compact or powder box having a base **28**, a cover **29** and side walls **30**. Loose powder is illustrated in the bottom of the box at **31** and on this rests the sifter, the foraminous member **23** coming directly in contact with the wall **30**.

The frictional contact between the packing member **27** and the wall **30** may be sufficient to hold the sifter from falling out of the compact and the contact should also be strong enough to prevent the passage of any powder along the walls **30** past the packing member **27**. It will be understood that for this purpose the packing member **27** may be of felt which term is employed to indicate any suitable material which is somewhat resilient, elastic and substantially impervious to powder.

As illustrated in Fig. 8 a powder puff **32** may normally rest within the ring upon the forami-

nous member 23. When the compact or powder receptacle is closed this will tend to hold the powder sifter against the powder 31 and tend to prevent displacement of the powder sifter as a whole.

I claim as my invention:

1. A powder sifter comprising a ring shaped in cross section like a U lying on its side with the legs of the U extending outwardly, a foraminous member lying across the opening in the ring and under the ring with its edges turned upwardly and inwardly onto the lower leg of the U, and a felt member overlying the edges of the foraminous member between the legs of the U and extending outwardly therefrom, the legs being clamped to hold the felt and foraminous member.

2. A powder sifter comprising a ring shaped in cross section like a U lying on its side with the legs of the U extending outwardly, a foraminous member extending across the opening in the ring and lying under and attached to the ring, and a felt member between the legs of the U and extending outwardly therefrom, the legs being clamped to grasp and hold the felt and foraminous member.

3. A powder sifter comprising a ring shaped in cross section like a U lying on its side with the legs of the U extending outwardly, a foraminous member across the opening in the ring, and a felt member between the legs of the U and extending outwardly therefrom, the legs being clamped to hold the felt.

4. A powder sifter comprising a ring shaped in cross section like a U lying on its side with the legs of the U extending outwardly, a foraminous member lying across the opening in the ring and under the ring with its edges turned upwardly and inwardly onto the lower leg of the U, and a felt member extending outwardly therefrom, the legs being clamped to hold the foraminous member.

5. A powder sifter comprising a ring shaped in cross section like a U lying on its side with the legs of the U extending outwardly, a foraminous member lying across the opening in the ring and under the ring with its edges turned upwardly and inwardly onto the lower leg of the U, a lifting loop fastened between the foraminous member and the bottom of the ring, and a felt member overlying the edges of the foraminous member between the legs of the U and extending outwardly therefrom, the legs being clamped to grasp and hold the felt, loop and foraminous member.

6. A powder sifter comprising a ring shaped in cross section like a U lying on its side with the legs of the U extending outwardly, a foraminous member across the opening in the ring, a lifting loop held by the ring, and a felt member between the legs of the U and extending outwardly therefrom, the legs being clamped to grasp and hold the loop and felt.

7. The method of making a powder sifter comprising forming a ring L shaped in section with the base of the L extending outwardly, applying across the opening in the ring a foraminous member, turning outwardly a portion of the upright of the L so as to form a ring substantially the shape of a U lying on its side, inserting a felt member between the legs of the U and extending outwardly therefrom, and compressing the U shaped ring so as to clasp and hold the members assembled.

8. The method of making a powder sifter comprising a ring having the cross section of a U lying on its side with the legs extending outwardly comprising applying across the opening in the ring a foraminous member slightly larger than the ring, turning the edges upwardly and inwardly and fastening them to the ring, inserting a felt member between the legs of the U and extending outwardly therefrom, and compressing the U shaped ring so as to clasp and hold the members assembled.

9. The method of making a powder sifter comprising forming a pan with an outwardly extending rim, cutting out the bottom to leave a ring L shaped in section with the base of the L extending outwardly, applying across the opening in the ring and below the L a foraminous member slightly larger than the ring, turning the edges upwardly and inwardly and fastening them to the ring, turning outwardly a portion of the upright of the L so as to form a ring substantially the shape of a U lying on its side, inserting a felt member between the legs of the U and extending outwardly therefrom, and compressing the U shaped ring so as to clasp and hold the members assembled.

10. The method of making a powder sifter comprising forming a ring L shaped in section with the base of the L extending outwardly, applying across the opening in the ring and below the L a foraminous member slightly larger than the ring, turning the edges upwardly and inwardly and fastening them to the ring, turning outwardly a portion of the upright of the L so as to form a ring substantially the shape of a U lying on its side, inserting a felt member between the legs of the U and extending outwardly therefrom, and compressing the U shaped ring so as to clasp and hold the members assembled.

11. The method of making a powder sifter comprising forming a pan with an outwardly extending rim, cutting out the bottom to leave a ring L shaped in section with the base of the L extending outwardly, applying across the opening in the ring below the L a foraminous member slightly larger than the ring, inserting the ends of a lifting loop between the foraminous member and the ring, turning the edges upwardly and inwardly and fastening them to the ring, turning outwardly a portion of the upright of the L so as to form a ring substantially the shape of a U lying on its side, inserting a felt member between the legs of the U and extending outwardly therefrom, and compressing the U shaped ring so as to clasp and hold the members assembled.

12. The method of making a powder sifter comprising a ring having the cross section of a U lying on its side with the legs extending outwardly, comprising applying across the opening in the ring a foraminous member, inserting the ends of a lifting loop between the foraminous member and the ring, inserting a felt member between the legs of the U and extending outwardly therefrom and compressing the U shaped ring so as to clasp and hold the members assembled.

ALFRED F. REILLY.